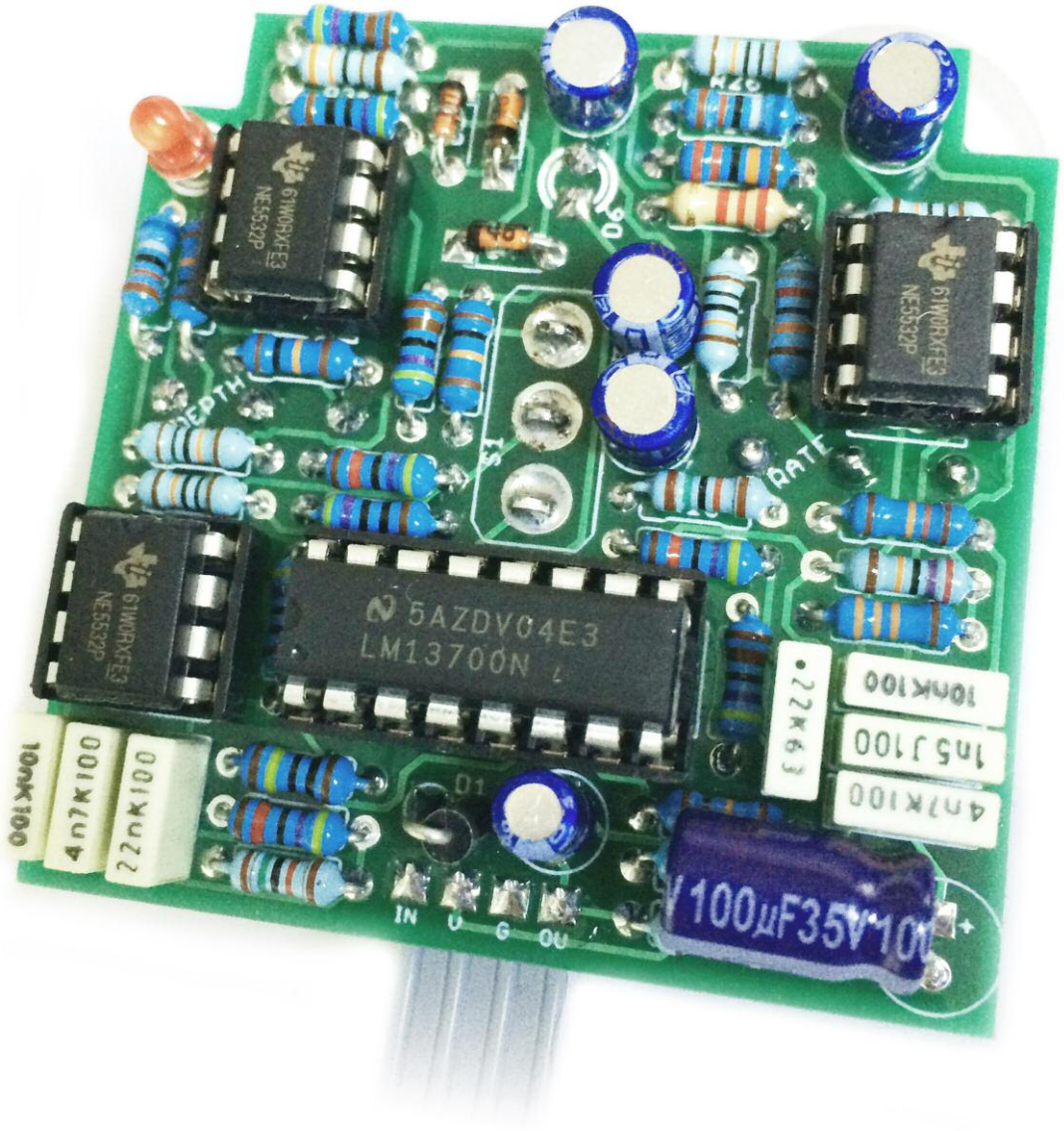


# TriVibe

## Run Off Groove's very most excellent box of vibrato

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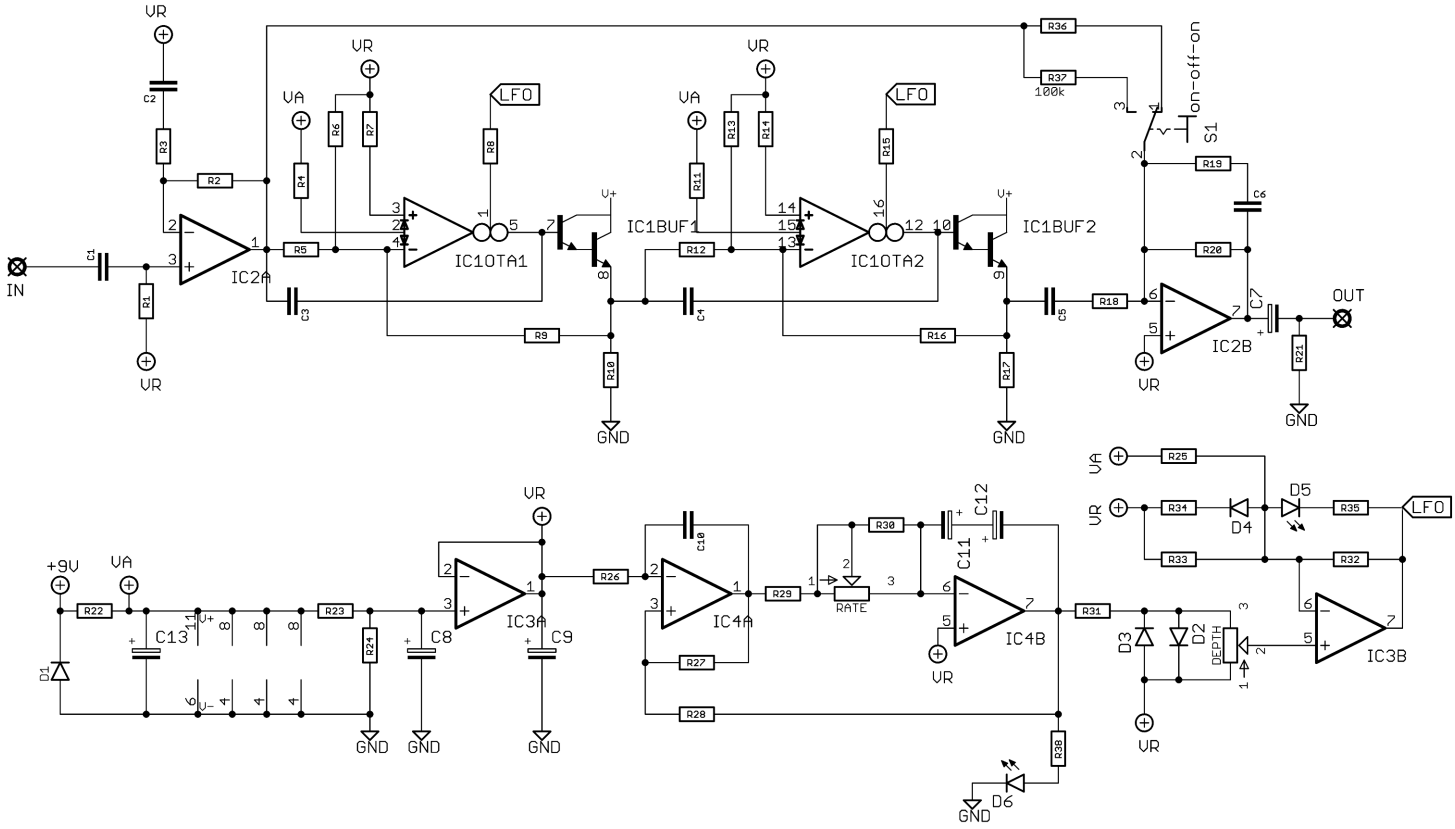
# Schematic+ BOM

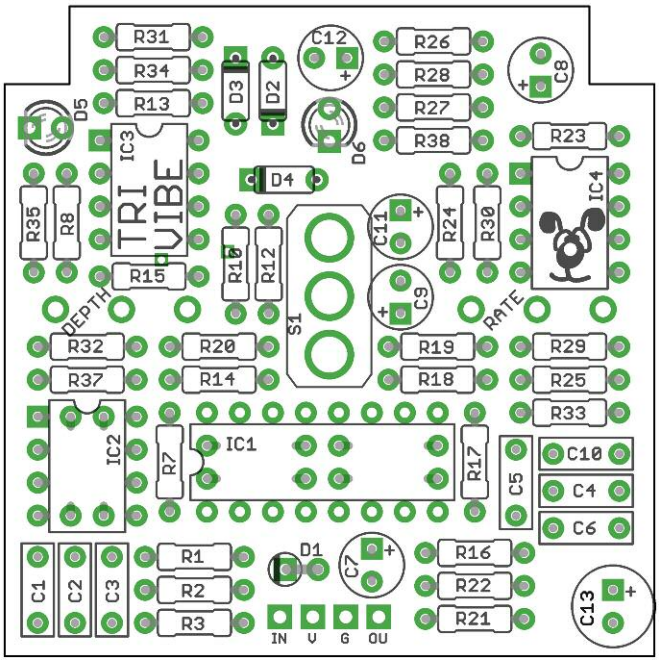


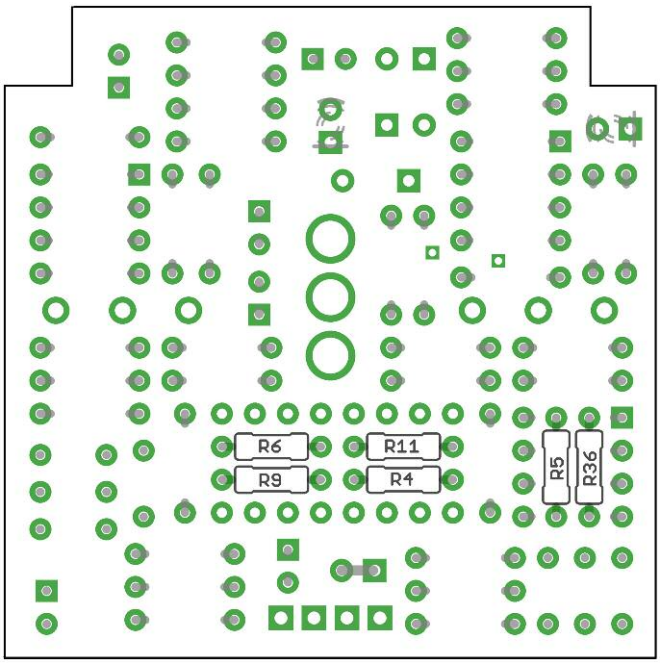

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| R1 | 1M | R20 | 47K | | | | |
| R2 | 47K | R21 | 100K | C1 | 10n | | |
| R3 | 15K | R22 | 22R | C2 | 4n7 | | |
| R4 | 3K9* | R23 | 100K | C3 | 22n | | |
| R5 | 10K* | R24 | 100K | C4 | 1n5 | | |
| R6 | 470R* | R25 | 270K | C5 | 220n | | |
| R7 | 470R | R26 | 100K | C6 | 4n7 | | |
| R8 | 10K | R27 | 220K | C7 | 1u elec | | |
| R9 | 10K* | R28 | 68K | C8 | 10u elec | | |
| R10 | 4K7 | R29 | 12K | C9 | 10u elec | IC1 | LM13700 |
| R11 | 3K9* | R30 | 820K | C10 | 10n | IC2 | NE5532*** |
| R12 | 10K | R31 | 4K7 | C11 | 10u elec | IC3 | TL062*** |
| R13 | 470R | R32 | 100K | C12 | 10u elec | IC4 | TL062*** |
| R14 | 470R | R33 | 33K | C13 | 100u elec | | |
| R15 | 10K | R34 | 3K3 | | | RATE | 500KC |
| R16 | 10K | R35 | 68K | D1 | 1N4001 | DEPTH | 10KB |
| R17 | 4K7 | R36 | 47K* | D2-4 | 1N4148 | | |
| R18 | 47K | R37 | 100K | D5 | RED 3MM LED | S1 | SPDT |
| R19 | 15K | R38 | 2K2* | D6 | Optional** | | ON-OFF-ON |

*These resistors mount on the underside of the PCB and should be placed first. See next page.

**Optional rate indicator LED and current limiter. Just leave out R38 and D6 if you don't want one.

***These are the op-amps prefered by ROG. Others could be used.




PCB Layout ©2015 Pedal Parts Ltd. All rights reserved.

There are six resistors that mount on the back side of the PCB, shown above right. Unfortunately an error at the fabricators (not our fault!) means there's no silk screen on this side showing their locations. Solder these into place first and ensure good, neat connections. ICs will be placed over these pads on the other side so you'll have no access to them later.

The power and signal pads on the PCB conform to the FuzzDog Direct Connection format, so can be paired with the appropriate daughterboard for quick and easy offboard wiring. Check the separate daughterboard document for details.

Be very careful when soldering the diodes and LED They're very sensitive to heat. You should use some kind of heat sink (crocodile clip or reverse action tweezers) on each leg as you solder them. Keep exposure to heat to a minimum (under 2 seconds). It's best to use a socket for the ICs.

The striped leg (cathode) of the diodes go into the square pads.

The long leg (anode) of the electrolytic capacitors go into the square pads. C13 can be placed flat across the adjacent resistors to save height, as shown in the image on page 1.

Long led (anode) of the LEDs go into the round pads.

Snap the small metal tag off the pots so they can be mounted flush in the box. Same for the tag on the rotary switch.

Pots mount on the back side of the board. You can use vertical-mount pots or just wire up 'normal' ones. Ensure you get them all at the same height, and if there are no plastic covers on them make sure you have plenty of clearance between the pot body and the solder side of the PCB, otherwise you'll short out components. Best way to do this is get some thick cardboard and put it between the pots and the board when soldering. Remove it once they're in place.

To get them both the same height its best to solder a single pin of each so you have all three pots in place. See if they all line up ok. If not, simply melt the connection of any that aren't right and adjust. Much easier than trying to do it if all three pins are soldered. Once they're aligned, solder the other two pins of each pot.

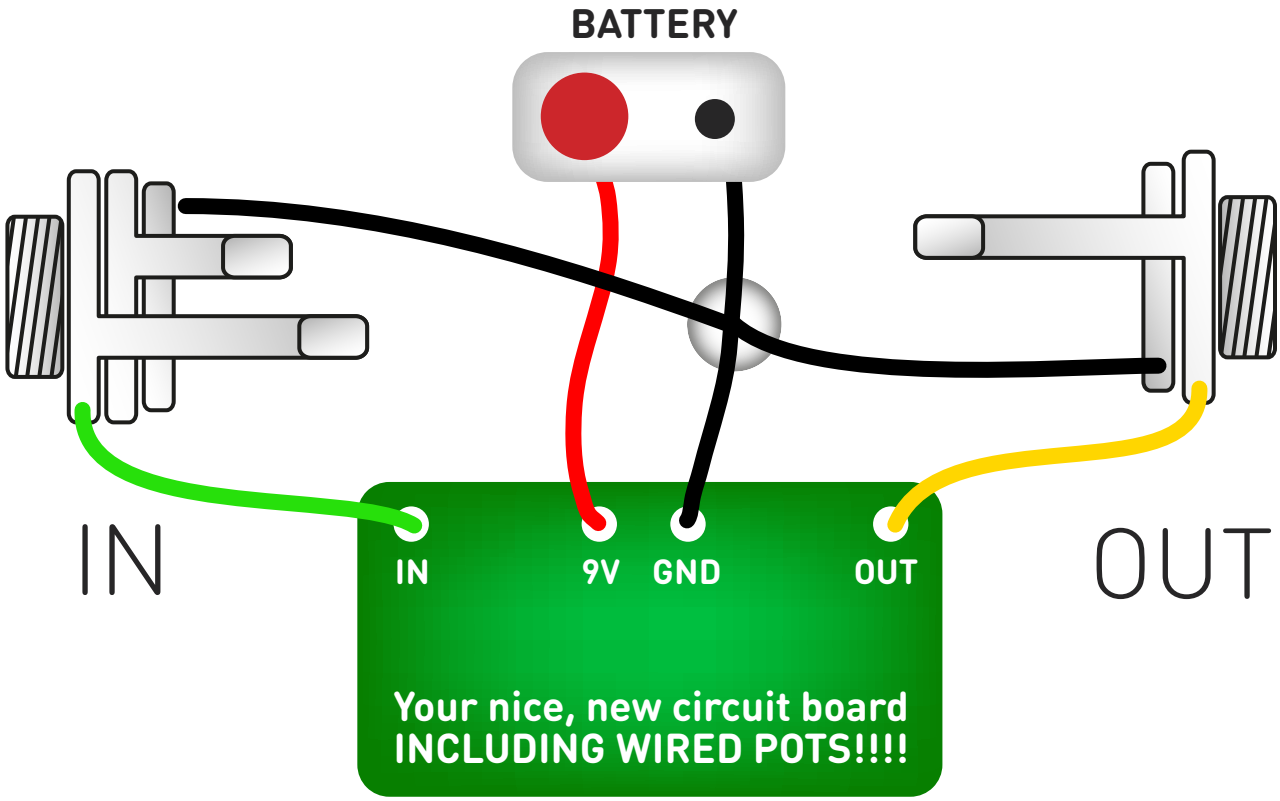
Favourite technique at FDHQ is to put the pots into the holes on the top side of the enclosure to get everything lined up nicely while soldering.

Use a similar technique for the toggle switch - locate it in the enclosure holes and drop the board on top so they're in the right place.

If you're adding the rate indicator LED it's a good idea to leave this until you're boxing up your circuit. You can check if it's working by just sliding it into place on the PCB and pressing it against the side of the holes to ensure it's connected. If you get flashing, all good.

Once you've finished testing and you're ready to box up, slide the rate LED into the PCB and bend the legs out slightly. Once you get the pots and switch fastened in place you can then push the LED down into place and solder. That way you ensure it locates properly into the hole in the enclosure.

# Test the board!




**UNDER NO CIRCUMSTANCES will troubleshooting help be offered if you have skipped this stage. No exceptions.**

Battery clip is supplied to test the circuit. Power supply is recommended when using the finished delay as it will EAT batteries.

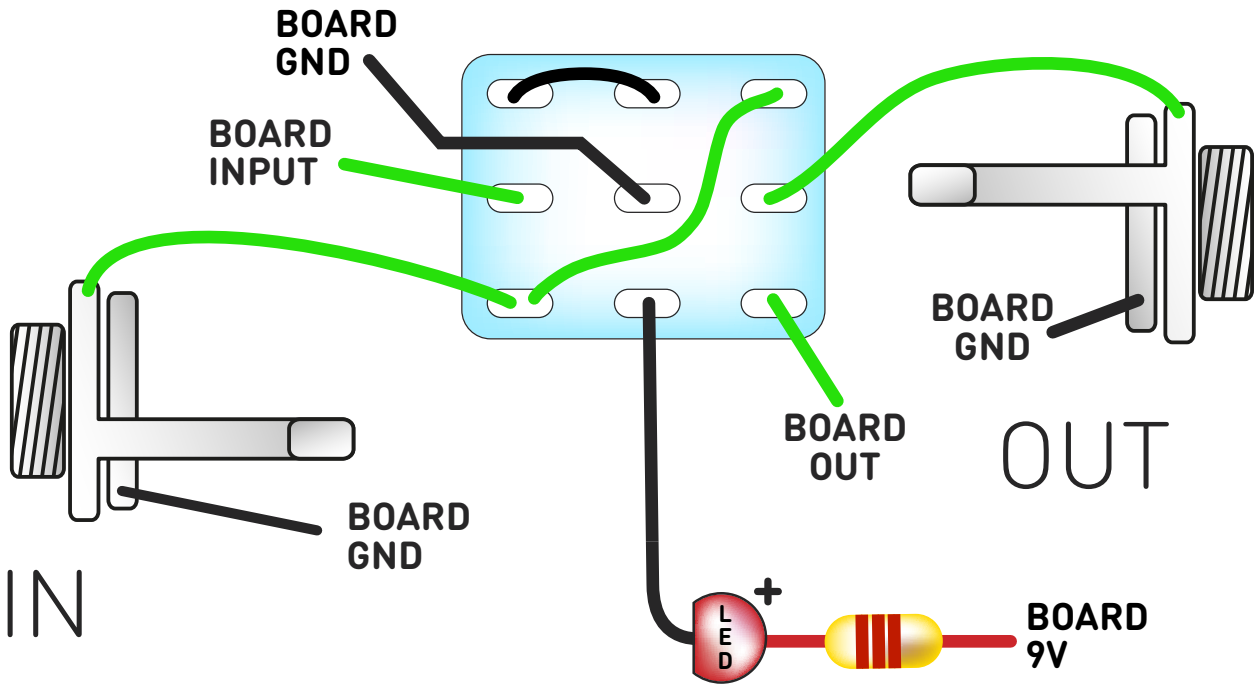
Once you've finished the circuit it makes sense to test is before starting on the switch and LED wiring. It'll cut down troubleshooting time in the long run. If the circuit works at this stage, but it doesn't once you wire up the switch - guess what? You've probably made a mistake with the switch.

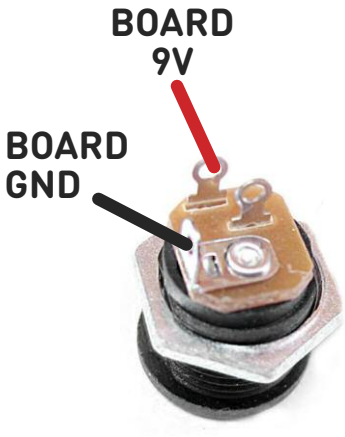
Solder some nice, long lengths of wire to the board connections for 9V, GND, IN and OUT. Connect IN and OUT to the jacks as shown. Connect all the GNDs together (twist them up and add a small amount of solder to tack it). Connect the battery + lead to the 9V wire, same method. Plug in. Go!

If it works, crack on and do your switch wiring. If not... aw man. At least you know the problem is with the circuit. Find out why, get it working, THEN worry about the switch etc.

# Wire it up - DC only version

(if using a daughterboard please refer to the relevant document)



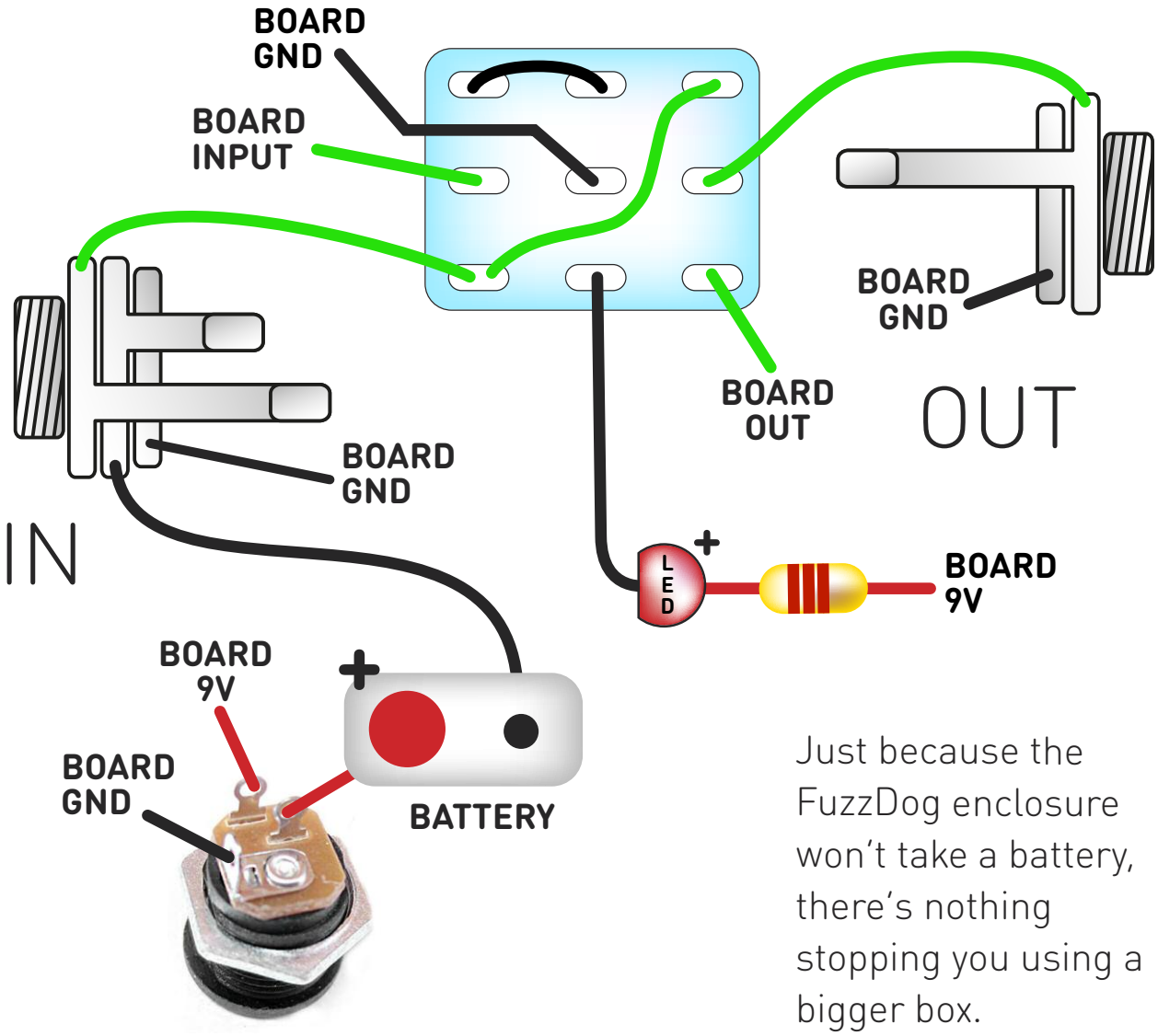




This circuit is standard, Negative GND. Your power supply should be Tip Negative / Sleeve Positive. That's the same as your standard pedals (Boss etc), and you can safely daisy-chain your supply to this pedal.

The BOARD GND connections don't all have to connect to one point. They can be daisy-chained around the circuit, using larger connection points (such as jack socket lugs) for multiple connections. As long as they all connect together in some way.

# Wire it up - with battery

(if using a daughterboard please refer to the relevant document)




Just because the FuzzDog enclosure won't take a battery, there's nothing stopping you using a bigger box.

This circuit is standard, Negative GND. Your power supply should be Tip Negative / Sleeve Positive. That's the same as your standard pedals (Boss etc), and you can safely daisy-chain your supply to this pedal.

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# Drilling template

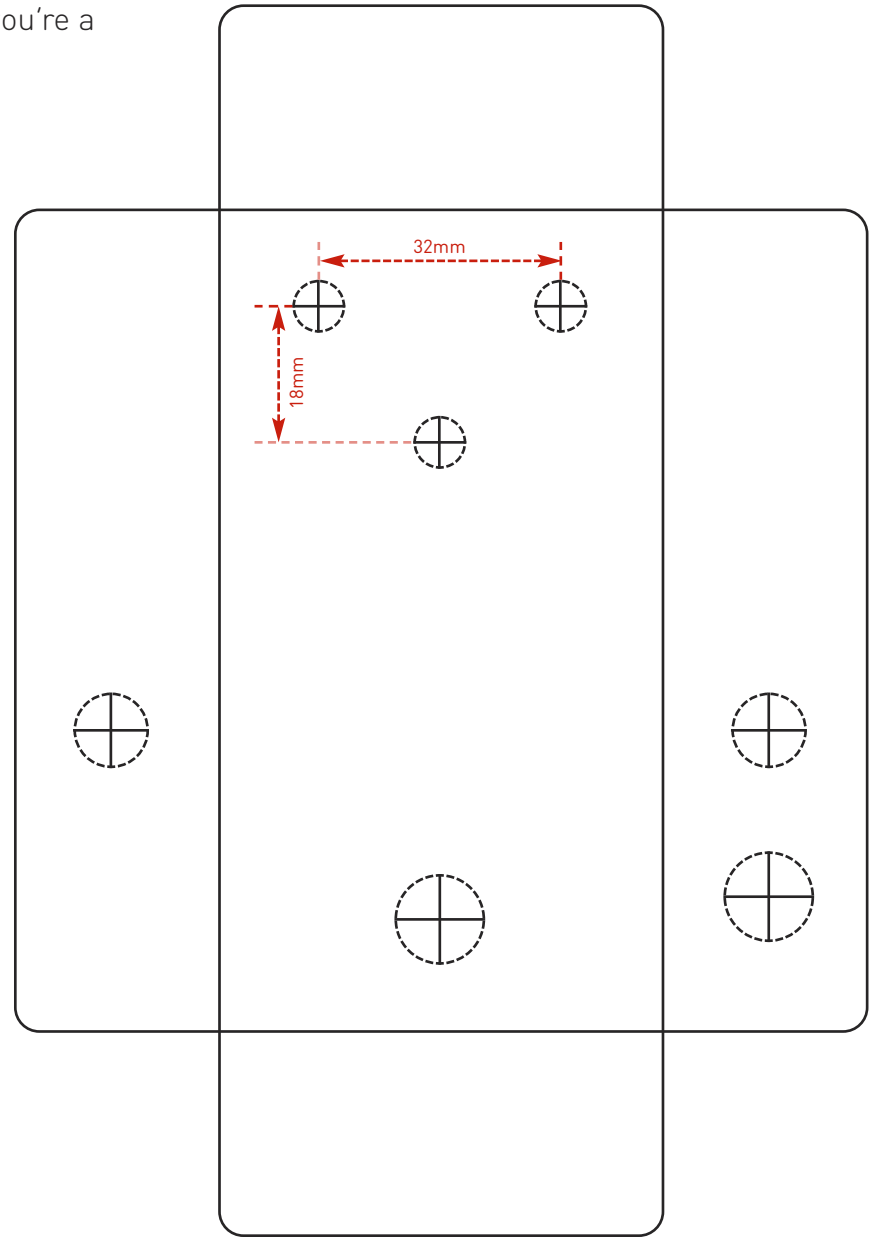
**Hammond 1590B**

**60 x 111 x 31mm**

**Recommended drill sizes:**

| | |
|---|---|
| Pots | 7mm |
| Jacks | 10mm |
| Footswitch | 12mm |
| DC Socket | 12mm |
| Toggle Switch | 6mm |

It's a good idea to drill the holes for the pots 1mm bigger to give yourself some wiggle room, unless you're a drill ninja.




This template is a rough guide only. You should ensure correct marking of your enclosure before drilling. You use this template at your own risk.
Pedal Parts Ltd can accept no responsibility for incorrect drilling of enclosures.

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